TCM-450DV

SERVICE MANUAL

Ver 1.2 2004. 07

US Model
Canadian Model
AEP Model
E Model
Chinese Model
Tourist Model

Model Name Using Similar Mechanism	New
Tape transport Mechanism Type	MT-450-175

SPECIFICATIONS

Recording system
2-track 1 channel monaural
Speaker
Approx. 3.6 cm (1 7/16 in.) dia.
Tape speed
4.8 cm/s (1 7/8 ips) or 2.4 cm/s (15/16 ips)
Variable range of the tape speed
From approx. +30% to –20% (with REC TIME/PLAY MODE switch at “NORMAL”)
Frequency range
250 - 6,300 Hz using nomal (TYPE I) cassette
(with REC TIME/PLAY MODE switch at “NORMAL”)
Input
Microphone input jack (minijack/ monaural/PLUG IN POWER)
sensitivity 0.2 mV for 3 kΩ or lower impedance microphone
Output
Earphone jack (minijack/ monaural) for 8 - 300 Ω earphone
Power output (at 10 % harmonic distortion)
450 mW
Power requirements
3 V DC, batteries R03 (AAA) x 2/
External DC 3 V power sources
Dimensions (w/h/d) (incl. projecting parts and controls)
Approx. 86.3 x 113.4 x 28.9 mm
(3 1/2 x 4 1/2 x 1 3/16 in.)
Mass (main unit only)
Approx. 173 g (6.2 oz.)
Supplied accessory
Carrying pouch (1)

Design and specifications are subject to change without notice.

CASSETTE-CORDER

9-877-551-03
2004G02-1
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Personal Audio Company
Published by Sony Engineering Corporation

SONY®

SECTION 1
GENERAL

This section is extracted from instruction manual.

TABLE OF CONTENTS

1. GENERAL 2

2. DISASSEMBLY 3
- 2-1. Cabinet (Rear) 3
- 2-2. Main Board 4
- 2-3. Mechanism Deck (MT-450-175) 4
- 2-4. Belt (Counter), Belt (Cap)S, M901 (Capstan/Reel Motor), HRP901 (REC/PB Head), HE901 (ERASE HEAD) 5
- 2-5. Cassette Lid Assy, Led Board 5

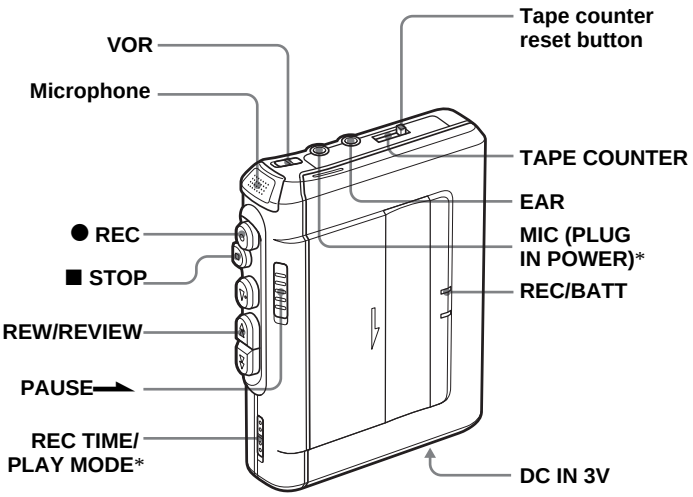
3. MECHANICAL ADJUSTMENTS 6

4. ELECTRICAL ADJUSTMENTS 6

5. DIAGRAMS
- 5-1. Block Diagrams 7
- 5-2. Printed Wiring Board –MAIN Section (Side A) – .. 8
  Printed Wiring Board –MAIN Section (Side B) – .. 9
- 5-3. Schematic Diagram –MAIN Section (1/2) – 10
- 5-4. Schematic Diagram –MAIN Section (2/2) – 11
- 5-5. IC BLOCK DIAGRAMS 12

6. EXPLODED VIEWS
- 6-1. Cassette Lid, Cabinet (Rear) Section 13
- 6-2. Cabinet (Front) Section 14
- 6-3. Mechanism Deck Section-1 (MT-450-175) 15
- 6-4. Mechanism Deck Section-2 (MT-450-175) 16

7. ELECTRICAL PARTS LIST 17



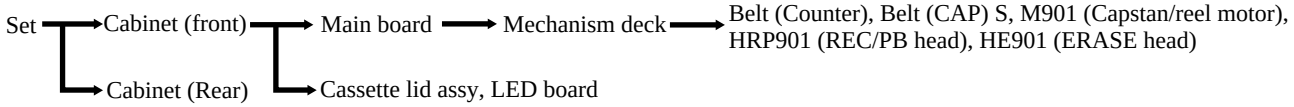
* **The button/jack has a tactile dot.**

Flexible Circuit Board Repairing
- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

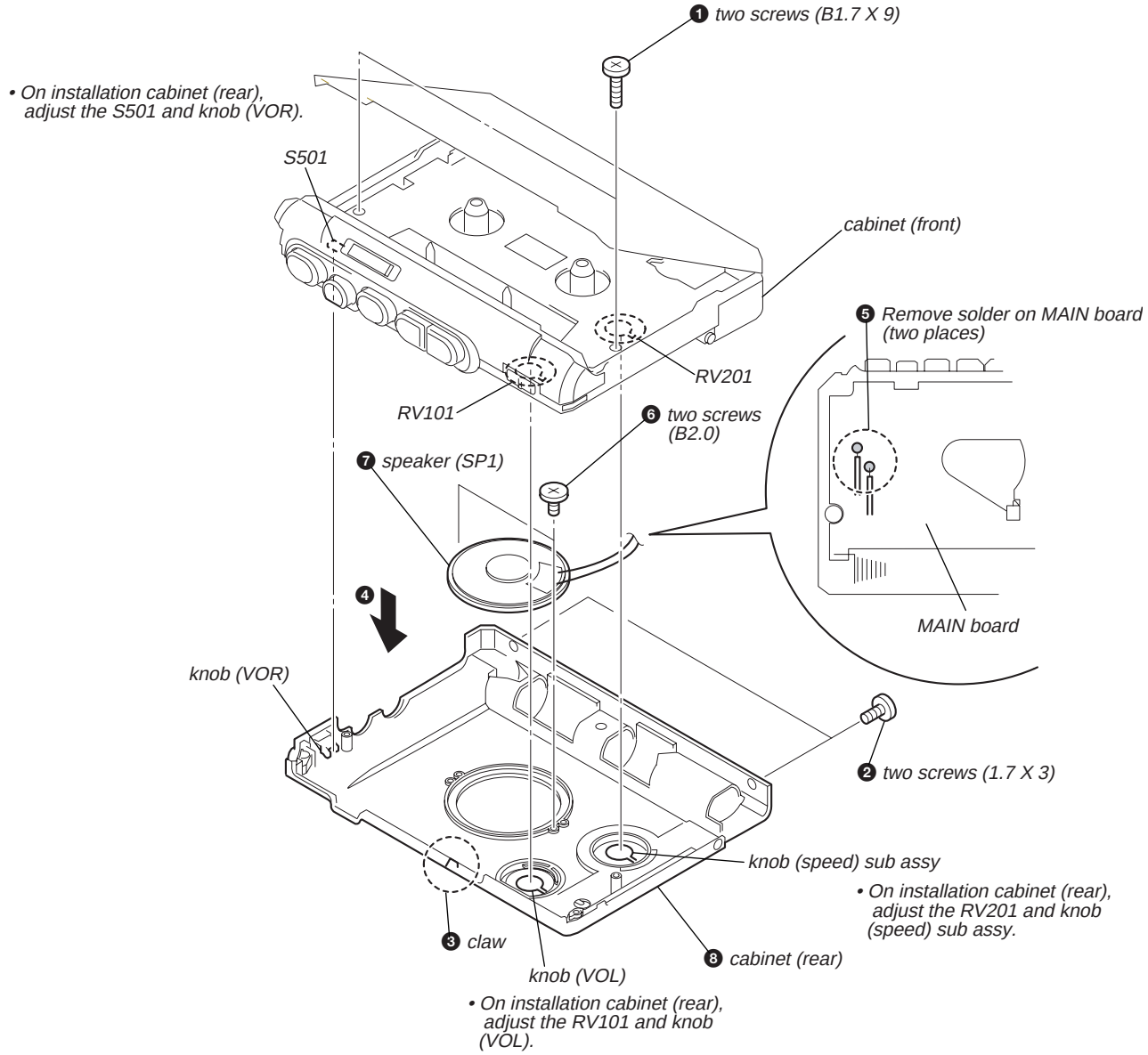
SECTION 2
DISASSEMBLY

• This set can be disassembled in the order shown below.

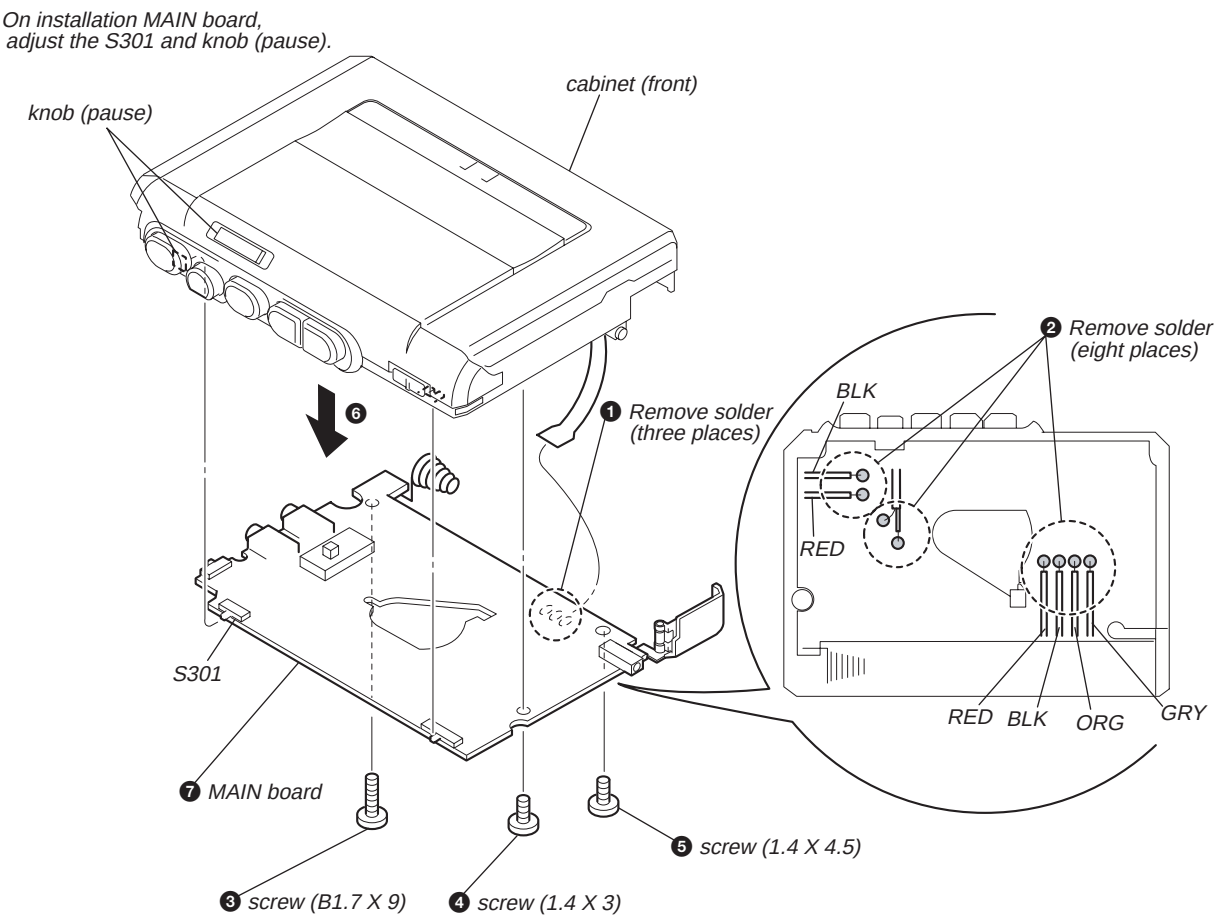

Set
Cabinet (front)
Cabinet (Rear)
Main board
Mechanism deck
Belt (Counter), Belt (CAP) S, M901 (Capstan/reel motor), HRP901 (REC/PB head), HE901 (ERASE head)
Cassette lid assy, LED board

Note: Follow the disassembly procedure in the numerical order given.

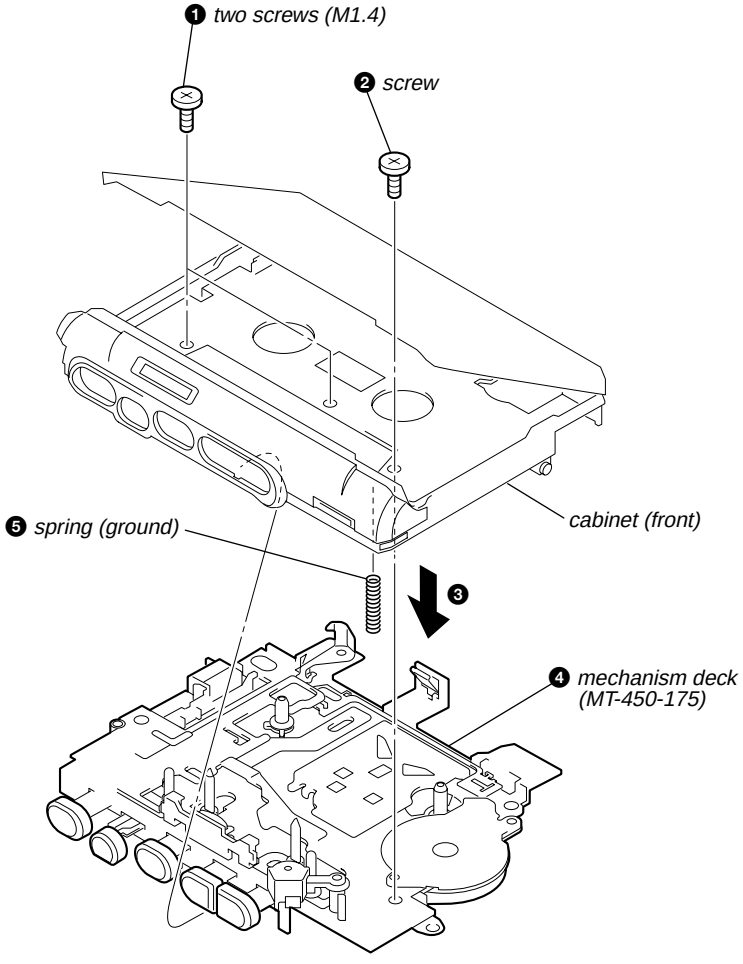
2-1. CABINET (REAR)


❶ two screws (B1.7 X 9)
• On installation cabinet (rear), adjust the S501 and knob (VOR).
S501
cabinet (front)
❺ Remove solder on MAIN board (two places)
RV201
RV101
❻ two screws (B2.0)
❼ speaker (SP1)
❹
MAIN board
knob (VOR)
❷ two screws (1.7 X 3)
knob (speed) sub assy
• On installation cabinet (rear), adjust the RV201 and knob (speed) sub assy.
❸ claw
❽ cabinet (rear)
knob (VOL)
• On installation cabinet (rear), adjust the RV101 and knob (VOL).

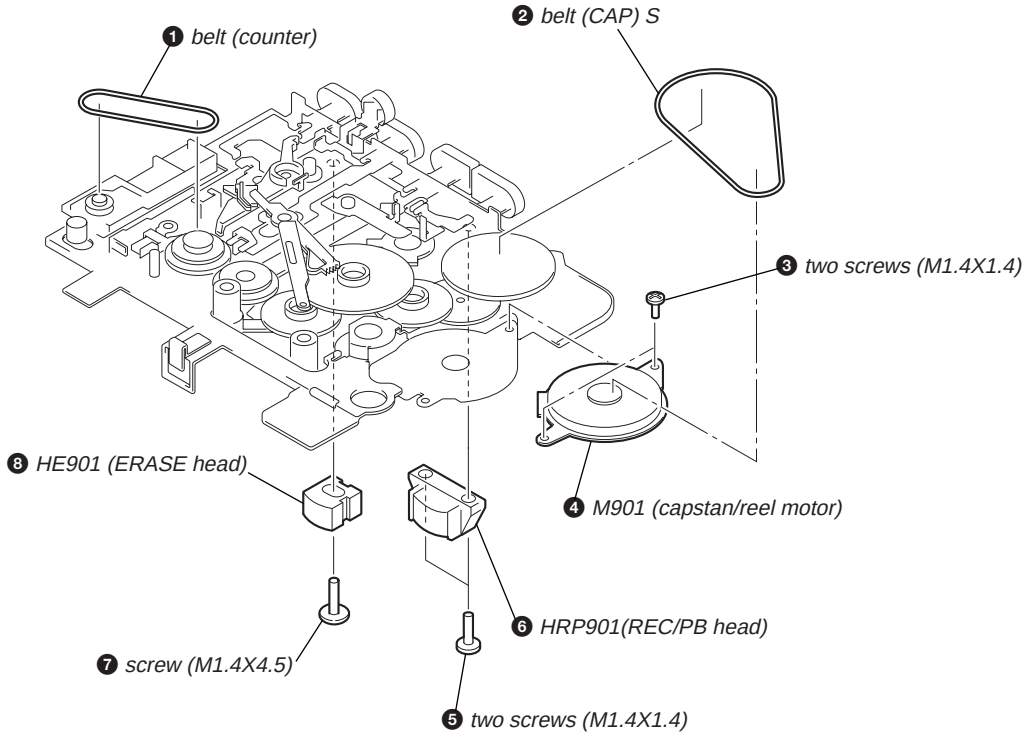
2-2. MAIN BOARD



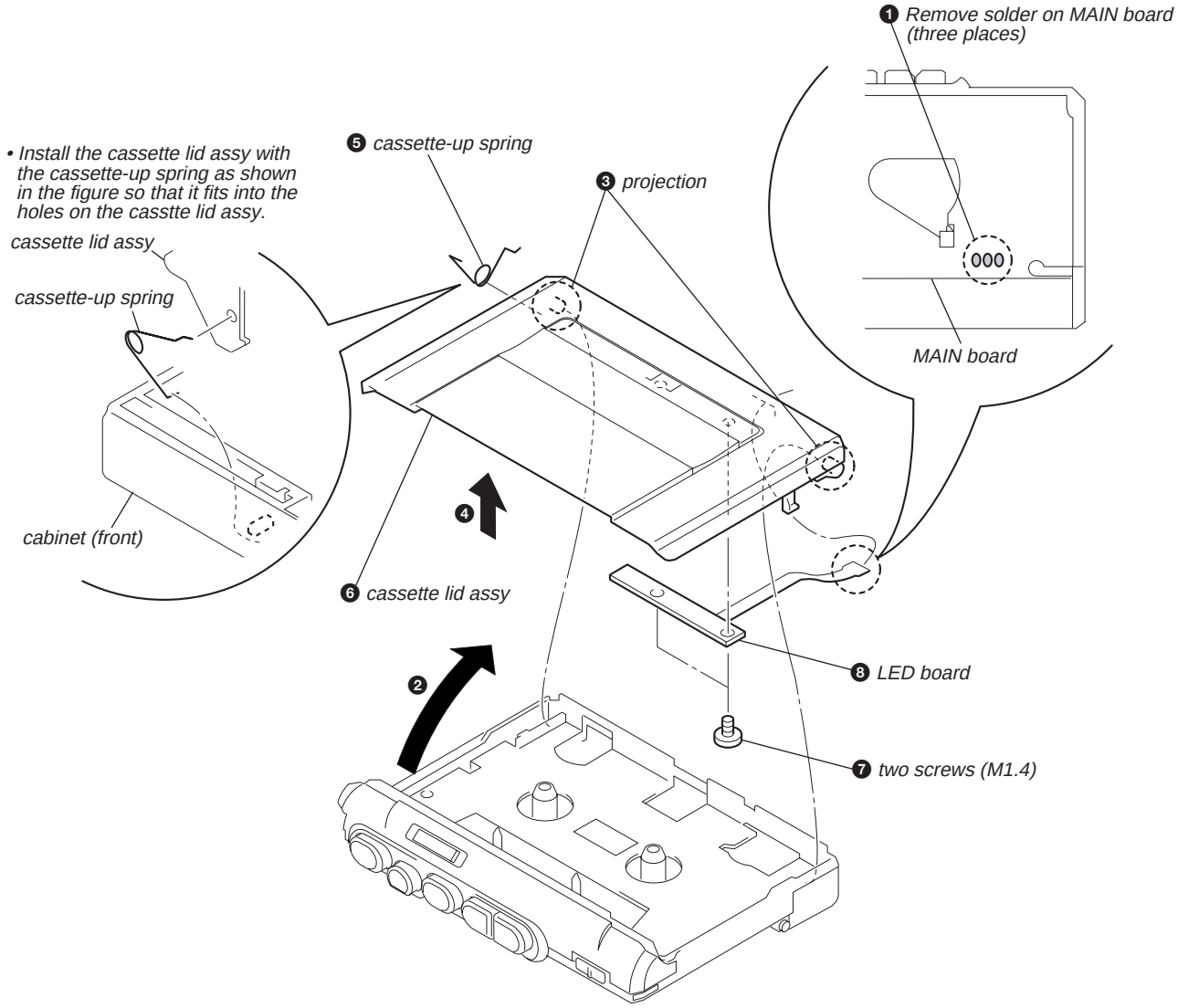
2-3. MECHANISM DECK (MT-450-175)



2-4. BELT (COUNTER), BELT (CAP) S, M901 (CAPSTAN/REEL MOTOR), HRP901 (REC/PB HEAD), HE901 (ERASE HEAD)



2-5. CASSETTE LID ASSY, LED BOARD


❶ Remove solder on MAIN board (three places)
• Install the cassette lid assy with the cassette-up spring as shown in the figure so that it fits into the holes on the casstte lid assy.
❺ cassette-up spring
❸ projection
cassette lid assy
cassette-up spring
cabinet (front)
MAIN board
❹
❻ cassette lid assy
❷
❽ LED board
❼ two screws (M1.4)

SECTION 3
MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured-alcohol-moistened swab:
   record/playback head pinch roller
   erase head rubber belt
   capstan
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage (2.5 V) unless otherwise noted.

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	1.97 – 3.92mN•m (20 – 40 g•cm) (0.28 – 0.55 oz•inch)
Forward Back Tension		0.05 – 0.49 mN•m (0.5– 5 g•cm) (0.007 – 0.069 oz•inch)
FF, REW	CQ-201B	more than 4.91 mN•m (more than 50 g•cm) (more than 0.69 oz•inch)

Tape Tension Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 50 g (more than 1.76 oz)

SECTION 4
ELECTRICAL ADJUSTMENTS

Setting:
- Supplied voltage: 2.5 V
- Switch and control position
  VOL contorl (RV101) : mechanical center
  PAUSE switch (S301) : OFF
  SPEED CONTROL (RV201) : center click
  VOR switch (S501) : OFF

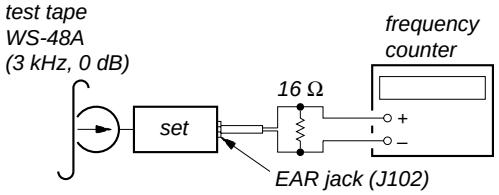
Test Tape

Type	Signal	Used for
WS-48A	3 kHz, 0 dB	tape speed adjustment

0 dB=0.775 V

Tape Speed Adjustment

Mode: playback



Procedure:
1. Set REC TIME / PLAY MODE switch (S601) to NORMAL (4.8 cm/s) position, and playback the tape (WS-48A) .
2. Adjust RV601 so that frequency counter reading becomes 3,000 Hz.

Specification values: 2,985 to 3,015 Hz

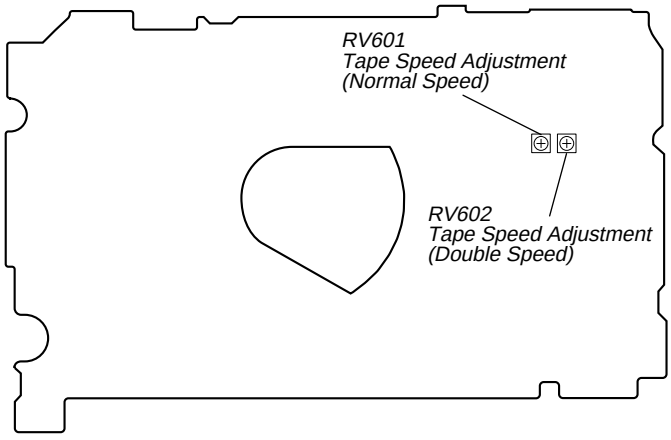
3. Set REC TIME / PLAY MODE switch (S601) to DOUBLE (2.4 cm/s) position.
4. Playback the tape from the beginning for two minutes, then adjust RV602 so that frequency counter reading becomes 1,500 Hz.

Specification values: 1,493 to 1,507 Hz

Confirm that deflection of the frequency counter reading between the beginning and the end of tape is within 2% (NORMAL: approx. 60 Hz, DOUBLE: approx. 30 Hz) .

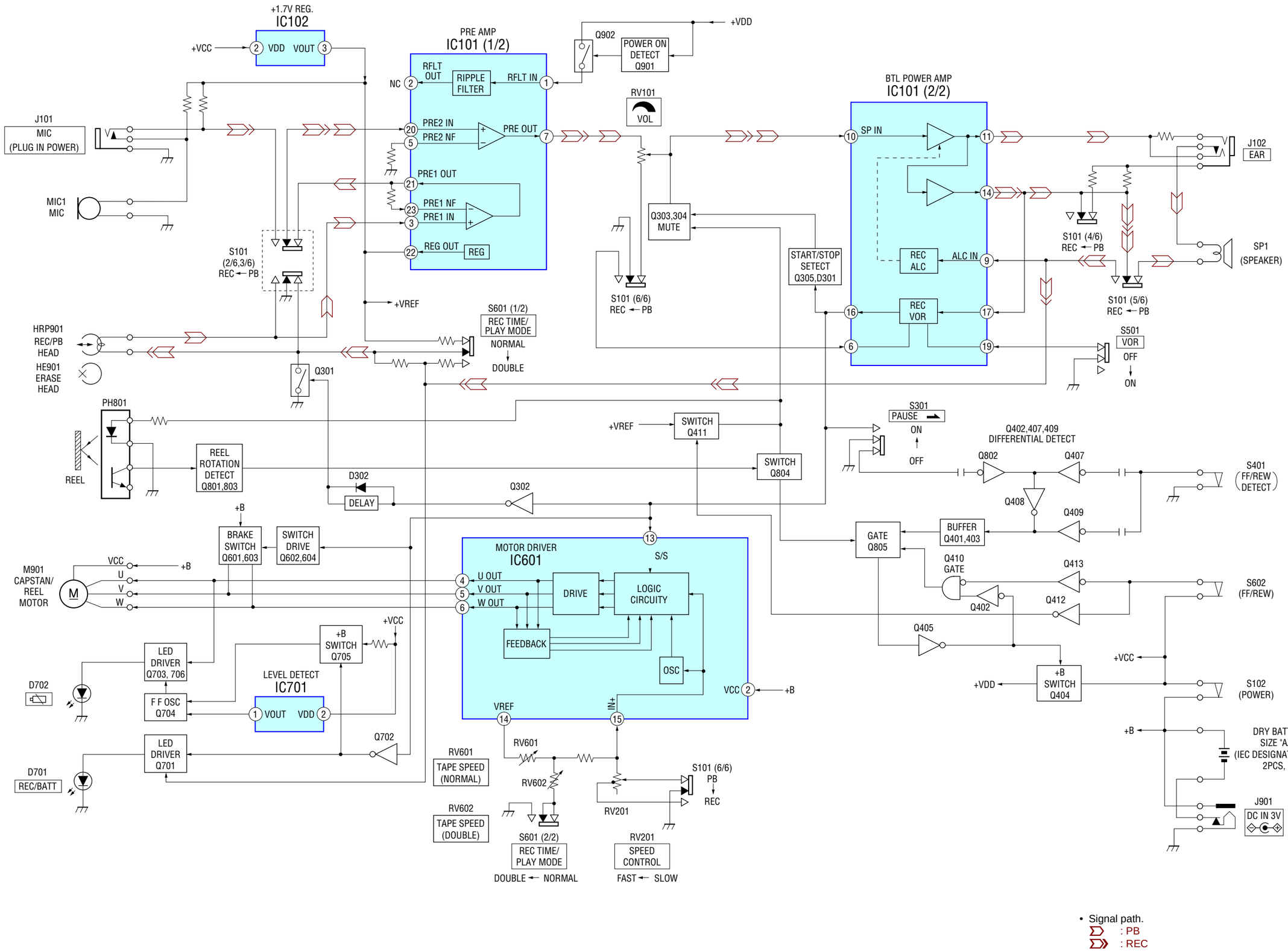
Adjustment Location:

– MAIN BOARD (Side B) –



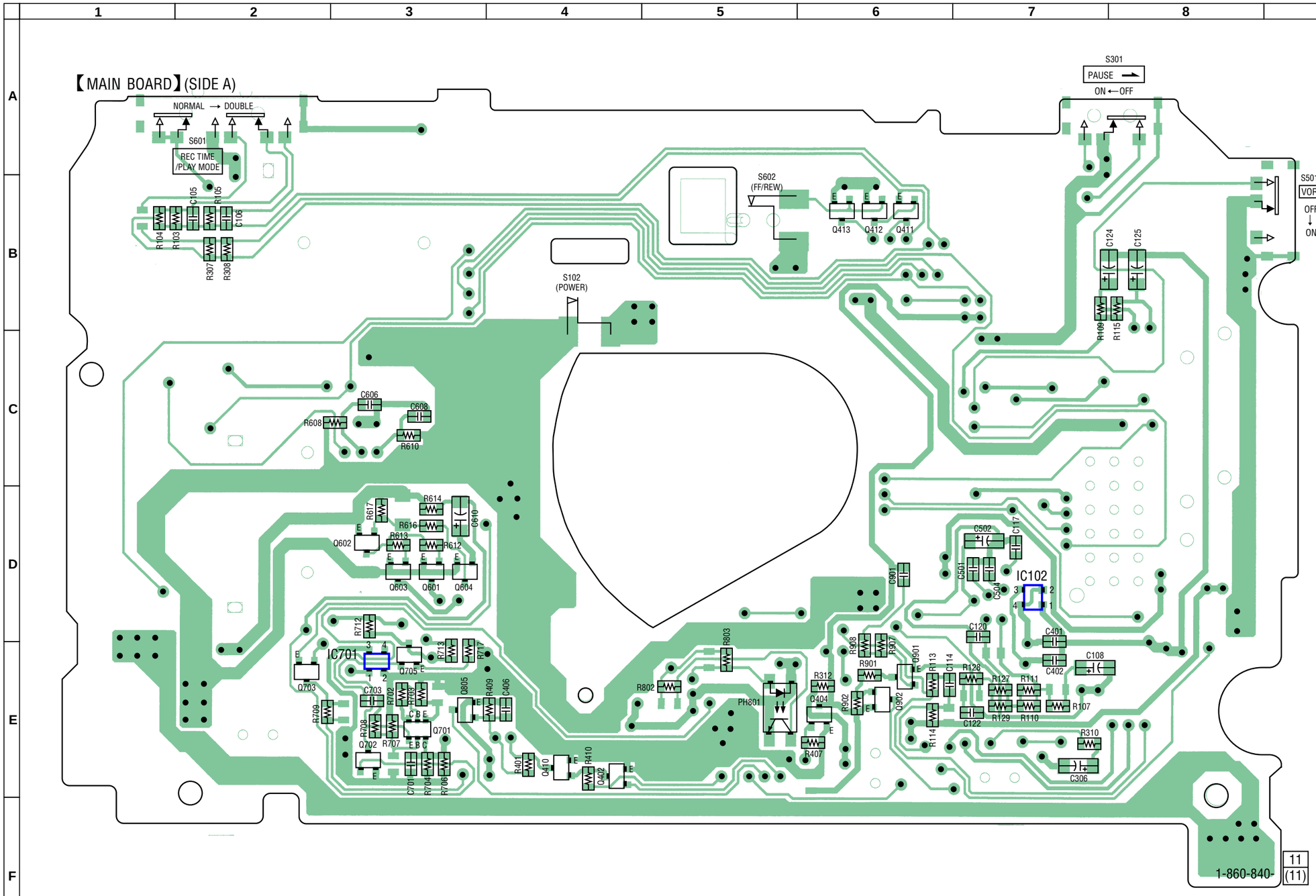
SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAM S



- Signal path.
  - : PB
  - : REC

5-2. PRINTED WIRING BOARD – MAIN SECTION (SIDE A) –



- **Semiconductor Location**

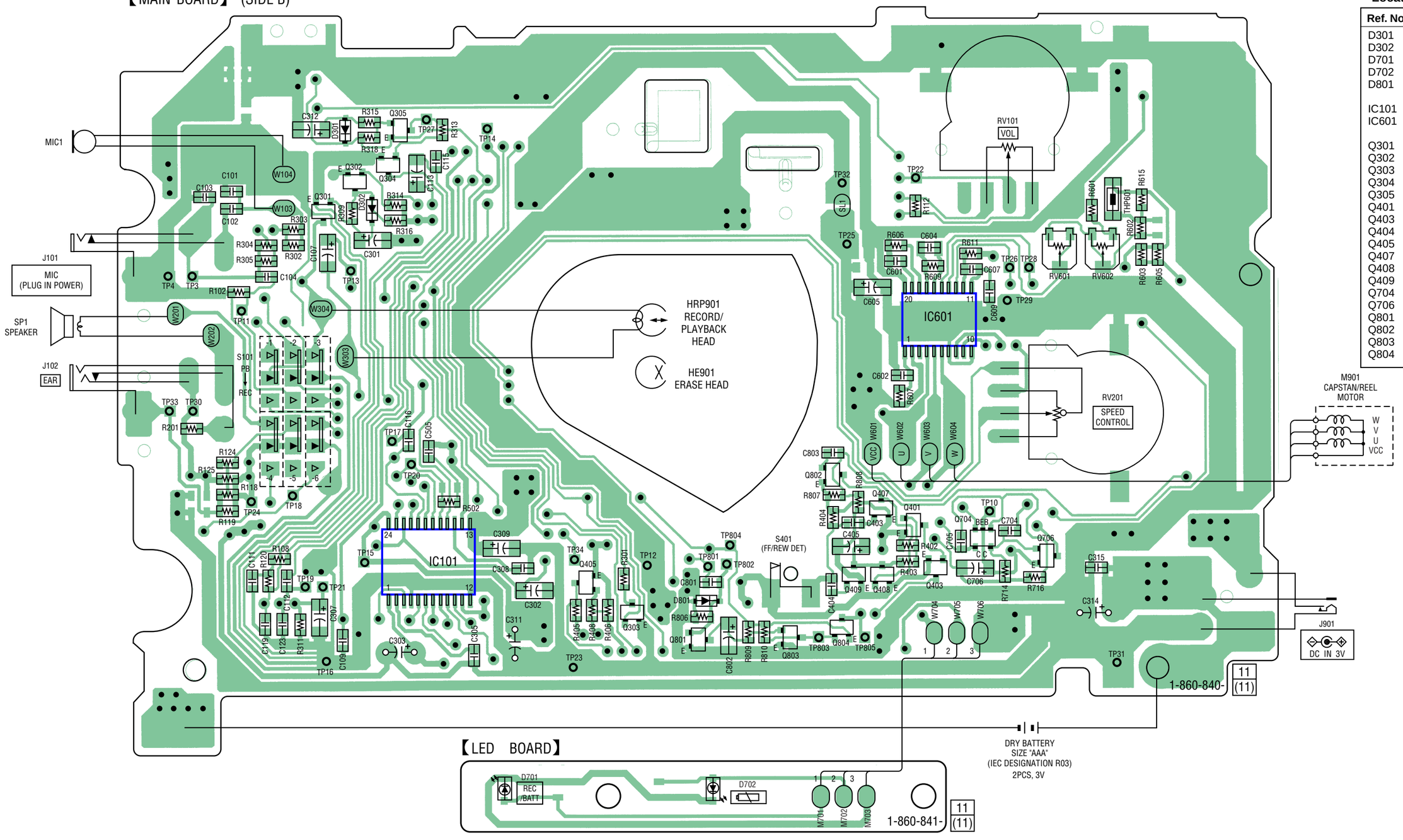
Ref. No.	Location
IC102	D-7
IC701	E-3
Q402	E-4
Q410	E-4
Q411	B-6
Q412	B-6
Q413	B-6
Q601	D-3
Q602	D-3
Q603	D-3
Q604	D-3
Q701	E-3
Q702	E-3
Q703	E-2
Q705	E-3
Q805	E-3
Q901	E-6
Q902	E-6

Note:
- ○——— : parts extracted from the component side.
- ● : Through hole.
- ▬ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)

Caution:
Pattern face side: (Conductor B) Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component A) Parts on the parts face side seen from the parts face are indicated.

PRINTED WIRING BOARD – MAIN SECTION (SIDE B) –

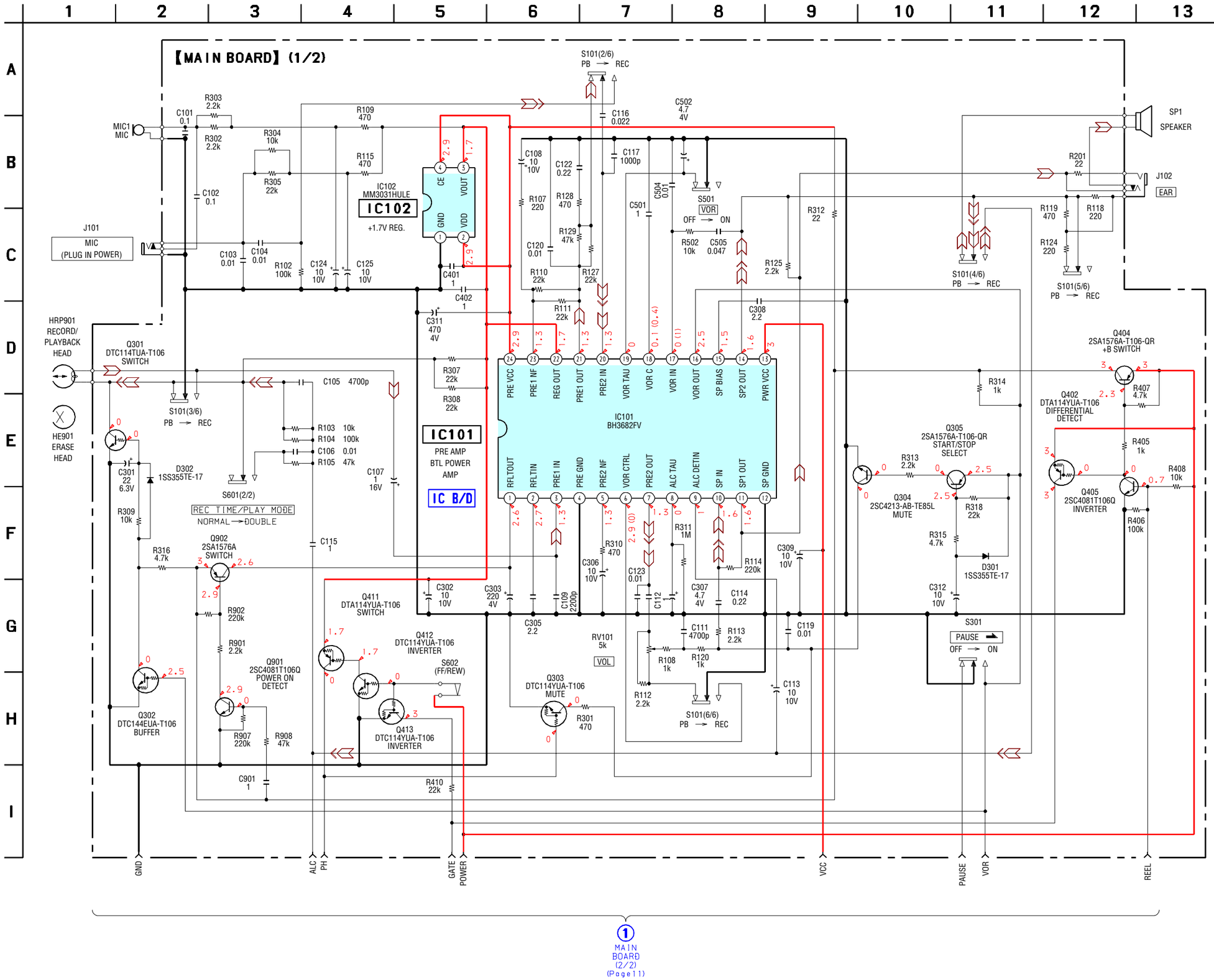
【MAIN BOARD】 (SIDE B)



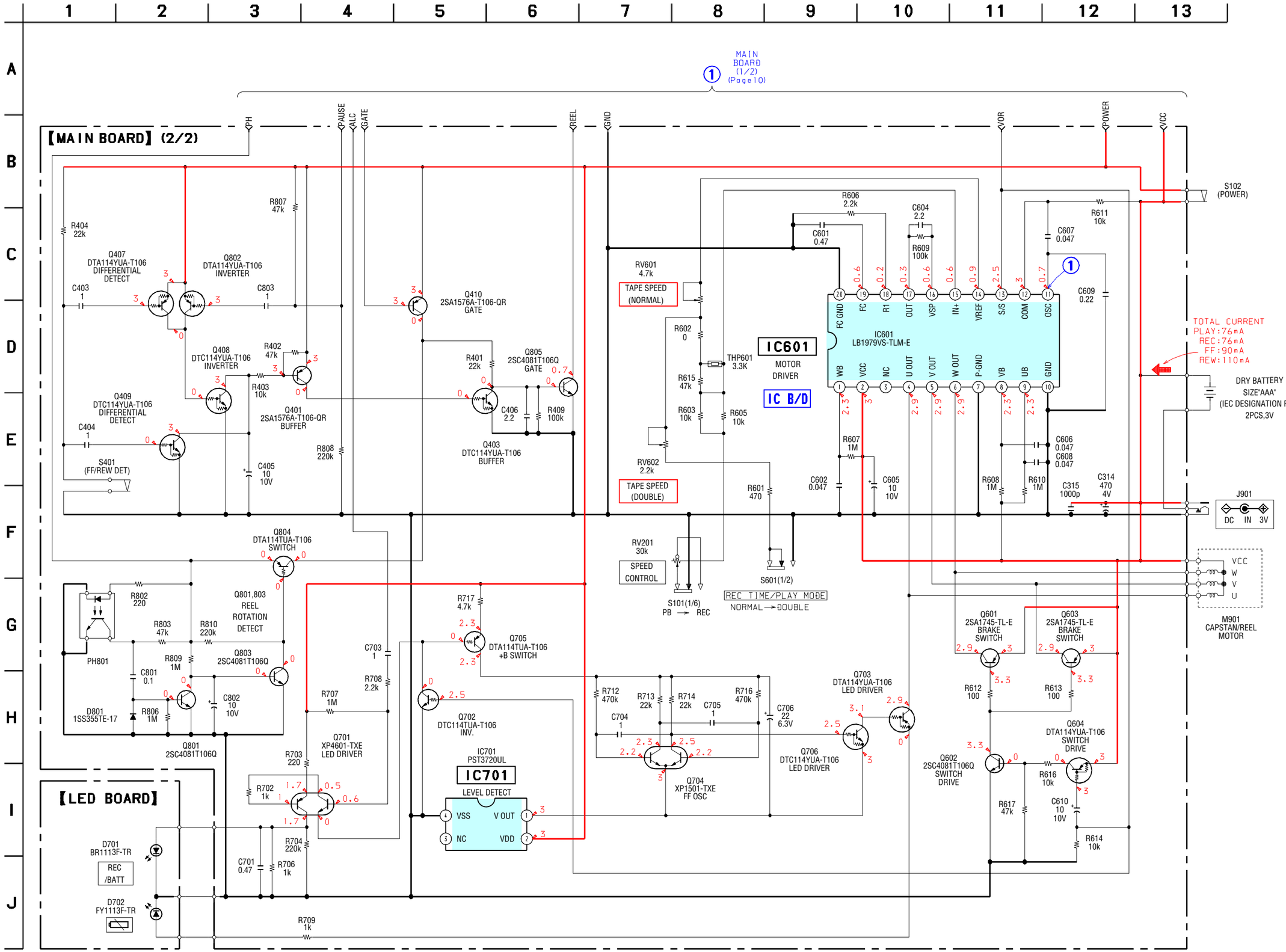
- **Semiconductor Location**

Ref. No.	Location
D301	B-3
D302	B-3
D701	F-4
D702	F-6
D801	E-5
IC101	E-4
IC601	C-7
Q301	B-3
Q302	B-3
Q303	E-5
Q304	B-3
Q305	B-3
Q401	D-7
Q403	E-7
Q404	E-6
Q405	E-5
Q407	D-7
Q408	E-7
Q409	E-6
Q704	D-7
Q706	D-8
Q801	E-5
Q802	D-6
Q803	E-6
Q804	E-6

5-3. SCHEMATIC DIAGRAM – MAIN SECTION (1/2) –



5-4. SCHEMATIC DIAGRAM – MAIN SECTION (2/2) –

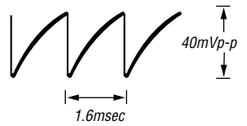


Note on schematic diagrams

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in W and $^1/_4$ W or less unless otherwise specified.
- ▬ : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 3V and fed with regulated dc power supply frombattery terminal .
- Voltages are dc with respect to ground under no-signal conditions.
  no mark : PLAY
  ( ) : REC
- Voltages are taken with a VOM (Input impedance 10 MΩ).
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ▷ : PB
  ▷▷ : REC

- **WAVEFORMS**

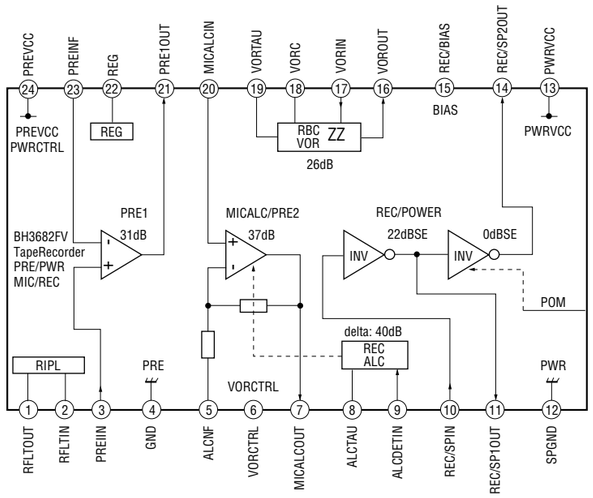
① **IC601** ⑪ **OSC**



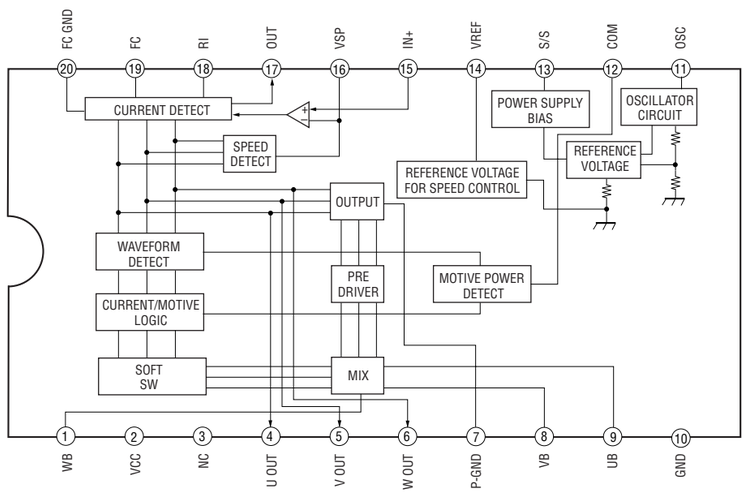
VOL/DIV : 20m V AC
TIME/DIV : 0.5 msec

5-5. IC BLOCK DIAGRAMS

IC101 BH3682FV



IC601 LB1979VL-TLM-E

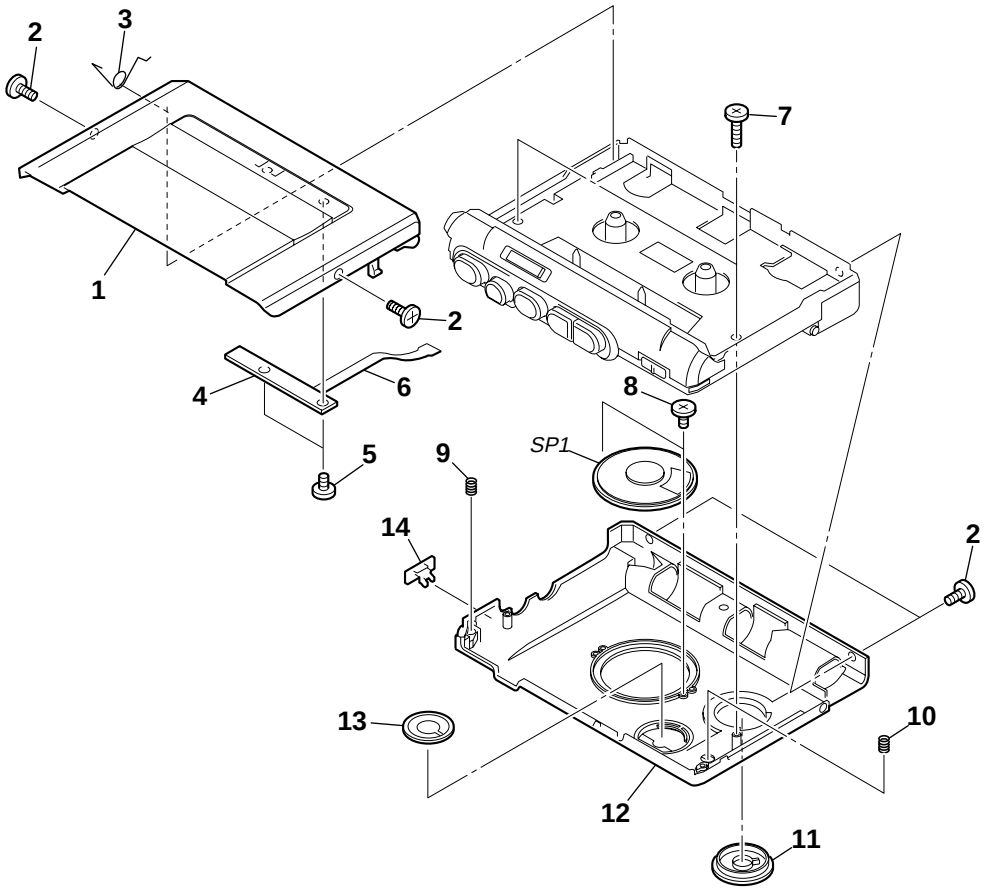


SECTION 6
EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories are given in the last of this parts list.
- Abbreviation
  CND: Canadian model
  EE : East European model
  CH : Chinese model
  JEW : Tourist model

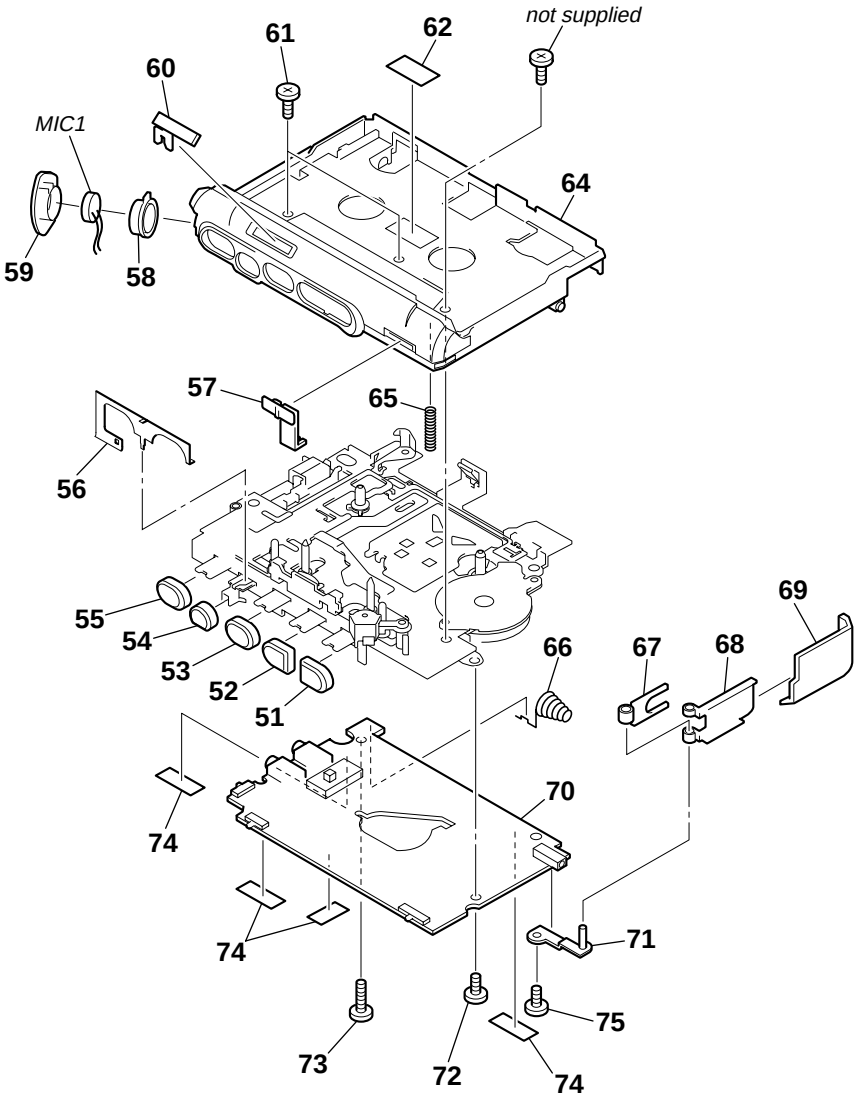
6-1. CASSETTE LID, CABINET (REAR) SECTION



Ref. No.	Part No.	Description	Remarks
1	X-3385-017-1	LID SUB ASSY, CASSETTE	
2	3-893-942-41	SCREW (1.7X3), TAPPING (B)	
3	3-258-991-01	SPRING, CASSETTE-UP	
* 4	1-860-841-11	LED BOARD	
5	3-225-873-09	SCREW (M1.4)	
6	1-860-842-11	FLEXIBLE BOARD	
7	3-318-203-97	SCREW (B1.7X9), TAPPING	

Ref. No.	Part No.	Description	Remarks
8	3-034-792-11	SCREW, TAPPING (B2.0)	
9	3-261-026-01	SPRING (GROUND) (2)	
10	3-261-028-01	SPRING (GROUND) (3)	
11	X-3385-015-1	KNOB (SPEED) SUB ASSY	
12	X-3385-018-1	REAR SUB ASSY, CABINET	
13	3-258-983-01	KNOB (VOL)	
14	3-258-996-01	KNOB (VOR)	
SP1	1-825-657-11	SPEAKER (3.6cm)	

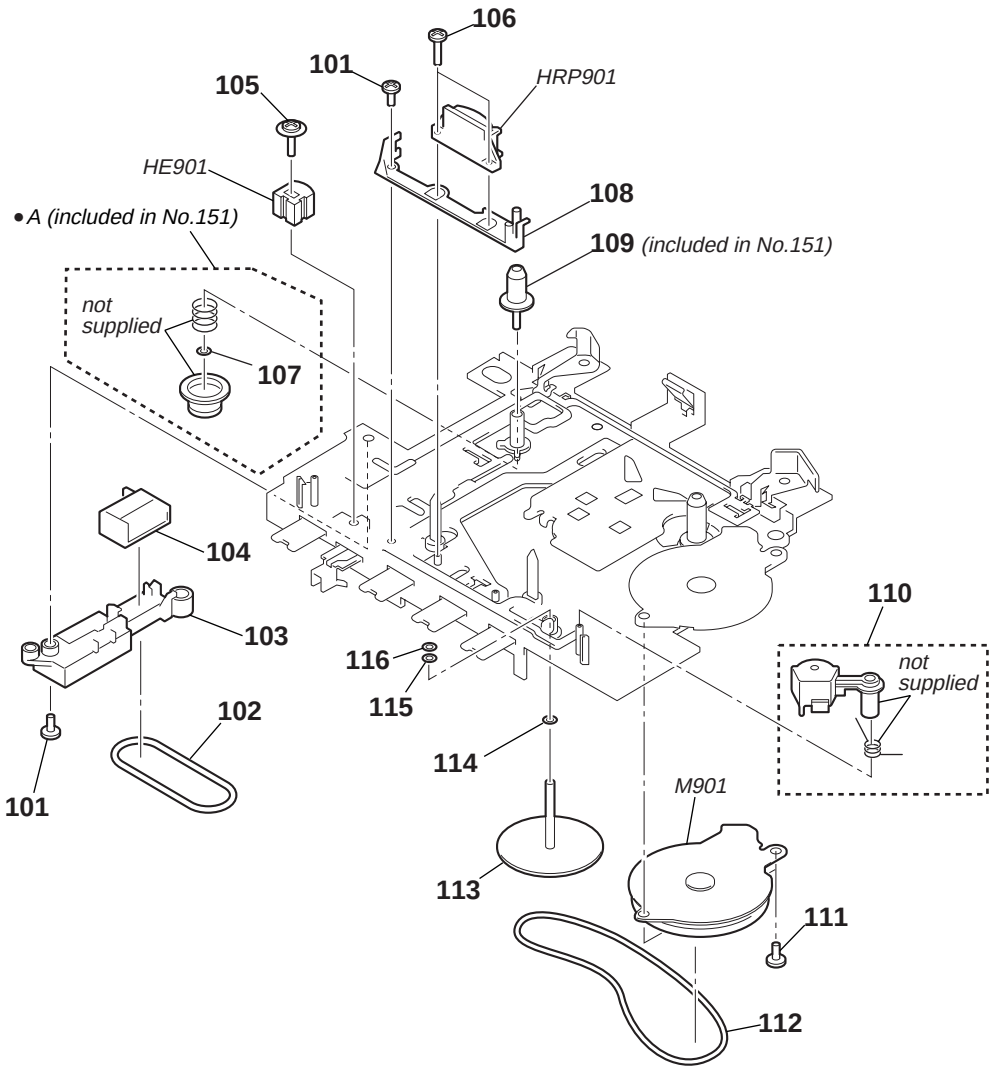
6-2. CABINET (FRONT) SECTION



Ref. No.	Part No.	Description	Remarks
51	3-258-976-01	BUTTON (FF)	
52	3-258-977-01	BUTTON (REW)	
53	3-258-975-01	BUTTON (PLAY)	
54	3-258-974-01	BUTTON (STOP)	
55	3-258-973-01	BUTTON (REC)	
56	3-258-978-01	LEVER (PAUSE)	
57	3-258-971-01	KNOB (REC TIME)	
58	3-258-986-01	CUSHION, MICROPHONE	
59	3-258-987-01	CASE, MICROPHONE	
60	3-258-970-01	KNOB (PAUSE)	
61	3-703-816-14	SCREW (M1.4)	
62	3-925-231-01	REFLECTOR	
64	X-3385-016-1	FRONT SUB ASSY, CABINET (US, CND, E, CH, JEW)	

Ref. No.	Part No.	Description	Remarks
64	X-3385-019-1	FRONT SUB ASSY, CABINET (AEP, EE)	
65	3-258-985-01	SPRING (GROUND)	
66	3-258-984-01	TERMINAL (-), BATTERY	
67	3-261-019-01	COVER, BATTERY TERMINAL	
68	3-258-981-01	TERMINAL (+), BATTERY	
69	3-258-982-01	LID, BATTERY CASE	
* 70	A-4541-638-A	MAIN BOARD, COMPLETE	
71	X-3384-947-1	PLATE (BATTERY SHAFT) ASSY	
72	3-345-648-01	SCREW (M1.4X3)	
73	3-318-203-97	SCREW (B1.7X9), TAPPING	
74	3-831-441-99	SPACER, KNOB	
75	3-254-083-01	SCREW (M1.4 X 4.5)	
MIC1	1-476-484-31	MICROPHONE UNIT, ELECTRET CAP	

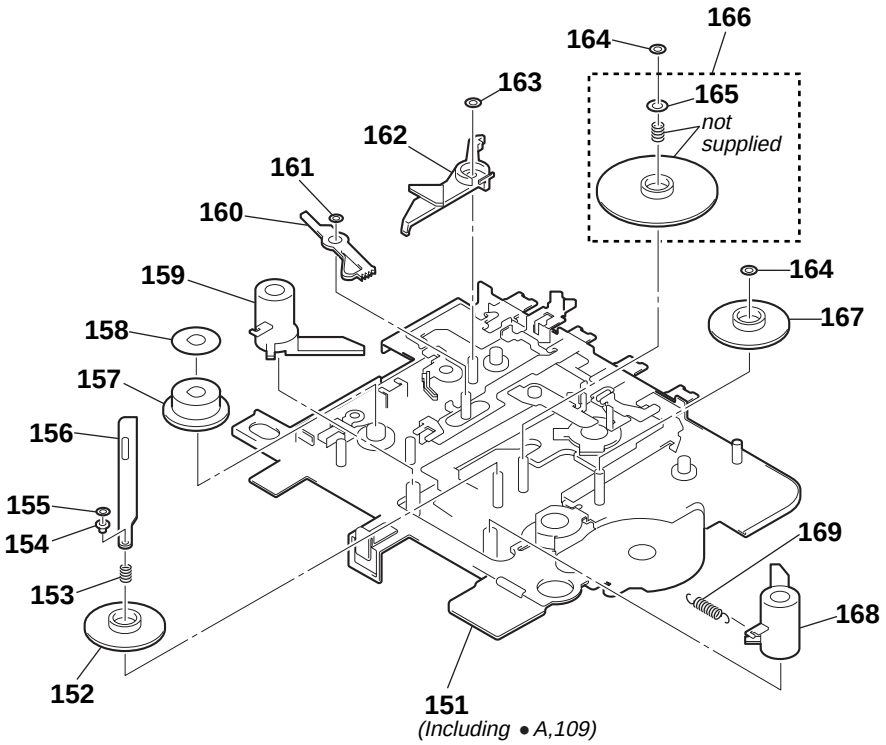
6-3. MECHANISM DECK SECTION-1 (MT-450-175)



Ref. No.	Part No.	Description	Remarks
101	3-703-816-16	SCREW (M1.4X2.5), SPECIAL HEAD	
102	3-234-858-01	BELT (COUNTER)	
103	3-258-979-01	BRACKET (COUNTER)	
104	1-548-582-11	COUNTER, TAPE (SMALL TYPE)	
105	3-703-925-41	SCREW (M1.4)	
106	3-703-816-23	SCREW (M1.4X4.5), SPECIAL HEAD	
107	3-231-358-01	WASHER	
108	3-234-861-02	GUIDE (ARO), TAPE	
109	3-019-776-03	GEAR (REEL-S)	
110	X-3379-882-3	PINCH (N) ASSY, ARM	

Ref. No.	Part No.	Description	Remarks
111	3-703-816-08	SCREW (M1.4X1.4), SPECIAL HEAD	
112	3-265-409-01	BELT (CAP) (S)	
113	X-3379-877-2	FLY ASSY (AR), CAPSTAN	
114	3-386-694-01	WASHER	
115	3-029-278-01	WASHER	
116	3-029-275-01	WASHER (STOPPER N)	
HE901	1-500-515-12	HEAD, MAGNETIC (ERASE)	
HRP901	1-500-823-11	HEAD, MAGNETIC (RECODE/PLAYBACK)	
M901	1-787-098-11	MOTOR, DC (CAPSTAN/REEL) (including PULLEY)	

6-4. MECHANISM DECK SECTION-2 (MT-450-175)



Ref. No.	Part No.	Description	Remarks
151	X-3384-292-1	CHASSIS ASSY (ARO) (S)	
152	3-225-385-03	GEAR (B)	
153	3-229-063-01	SPRING (UD) (R), COMPRESSION	
154	3-019-778-03	SLEEVE (MS)	
155	3-728-091-01	WASHER, STOPPER	
156	3-225-427-01	WASHER, LEVER	
157	3-225-384-02	GEAR (A)	
158	3-261-398-01	REFLECTOR (450)	
159	3-225-395-04	LEVER (REW ROTARY)	
160	X-3380-677-3	LEVER (E DETECTION) ASSY	

Ref. No.	Part No.	Description	Remarks
161	3-229-064-01	WASHER, STOPPER	
162	3-225-393-03	LEVER (SHUT/OFF)	
163	3-321-813-71	WASHER, COTTER POLYETHYLENE	
164	3-315-384-31	WASHER, STOPPER	
165	3-344-901-01	WASHER, STOPPER	
166	X-3379-881-3	CLUTCH ASSY (AR)	
167	3-225-388-04	GEAR (D)	
168	3-225-394-04	LEVER (FF ROTARY)	
169	3-225-444-01	SPRING (FR ROTARY), TENSION	

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...
- Abbreviation
  CND: Canadian model
  EE : East European model
  CH : Chinese model
  JEW : Tourist model

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remarks
*	1-860-841-11	LED BOARD			
		**********			
	1-860-842-11	PWB, FLEXIBLE			
		< DIODE >			
D701	8-719-081-41	DIODE BR1113F-TR (REC/BATT)			
D702	8-719-075-57	DIODE FY1113F-TR (▽)			
**********					
*	A-4541-638-A	MAIN BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C102	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C103	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C104	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C105	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C106	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C107	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C108	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C109	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C111	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C112	1-115-156-11	CERAMIC CHIP	1uF		10V
C113	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C114	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C115	1-115-156-11	CERAMIC CHIP	1uF		10V
C116	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C117	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C119	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C120	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C122	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C123	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C124	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C125	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C301	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C302	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C303	1-124-434-00	ELECT	220uF	20%	4V
C305	1-135-834-91	CERAMIC CHIP	2.2uF		6.3V
C306	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C307	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C308	1-135-834-91	CERAMIC CHIP	2.2uF		6.3V
C309	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C311	1-126-518-11	ELECT	470uF	20%	4V

Ref. No.	Part No.	Description			Remarks
C312	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C314	1-126-518-11	ELECT	470uF	20%	4V
C315	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C401	1-115-156-11	CERAMIC CHIP	1uF		10V
C402	1-115-156-11	CERAMIC CHIP	1uF		10V
C403	1-115-156-11	CERAMIC CHIP	1uF		10V
C404	1-115-156-11	CERAMIC CHIP	1uF		10V
C405	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C406	1-135-834-91	CERAMIC CHIP	2.2uF		6.3V
C501	1-115-156-11	CERAMIC CHIP	1uF		10V
C502	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C504	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C505	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C601	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C602	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C604	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C605	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C606	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C607	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C608	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C609	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C610	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C701	1-113-619-11	CERAMIC CHIP	0.47uF		10V
C703	1-115-156-11	CERAMIC CHIP	1uF		10V
C704	1-115-156-11	CERAMIC CHIP	1uF		10V
C705	1-115-156-11	CERAMIC CHIP	1uF		10V
C706	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C801	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C802	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C803	1-115-156-11	CERAMIC CHIP	1uF		10V
C901	1-115-156-11	CERAMIC CHIP	1uF		10V
		< DIODE >			
D301	8-719-988-61	DIODE 1SS355TE-17			
D302	8-719-988-61	DIODE 1SS355TE-17			
D801	8-719-988-61	DIODE 1SS355TE-17			
		< IC >			
IC101	6-704-794-01	IC BH3682FV			
IC102	6-705-813-01	IC MM3031HULE			
IC601	8-759-638-51	IC LB1979VS-TLM-E			
IC701	6-704-872-01	IC PST3720UL			

MAIN

Ref. No.	Part No.	Description	Remarks
		< JACK >	
J101	1-793-430-11	JACK, SMALL TYPE (MIC(PLUG IIN POWER))	
J102	1-785-791-11	JACK (EAR)	
J901	1-794-615-11	JACK,DC (POLARITY UNIFIED TYPE) (DC IN 3V)	
		< REFLECTOR >	
PH801	8-749-016-61	REFLECTOR NJL5197K-W-F20 (TE1)	
		< TRANSISTOR >	
Q301	8-729-028-97	TRANSISTOR DTC114TUA-T106	
Q302	8-729-029-14	TRANSISTOR DTC144EUA-T106	
Q303	8-729-028-99	TRANSISTOR DTC114YUA-T106	
Q304	8-729-013-37	TRANSISTOR 2SC4213-AB-TE85L	
Q305	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q401	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q402	8-729-028-76	TRANSISTOR DTA114YUA-T106	
Q403	8-729-028-99	TRANSISTOR DTC114YUA-T106	
Q404	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q405	8-729-905-34	TRANSISTOR 2SC4081T106Q	
Q407	8-729-028-76	TRANSISTOR DTA114YUA-T106	
Q408	8-729-028-99	TRANSISTOR DTC114YUA-T106	
Q409	8-729-028-99	TRANSISTOR DTC114YUA-T106	
Q410	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q411	8-729-028-76	TRANSISTOR DTA114YUA-T106	
Q412	8-729-028-99	TRANSISTOR DTC114YUA-T106	
Q413	8-729-028-99	TRANSISTOR DTC114YUA-T106	
Q601	8-729-823-86	TRANSISTOR 2SA1745-TL-E	
Q602	8-729-602-21	TRANSISTOR 2SC4154TP-1EF	
Q603	8-729-823-86	TRANSISTOR 2SA1745-TL-E	
Q604	8-729-028-76	TRANSISTOR DTA114YUA-T106	
Q701	8-729-427-74	TRANSISTOR XP4601-TXE	
Q702	8-729-028-97	TRANSISTOR DTC114TUA-T106	
Q703	8-729-028-76	TRANSISTOR DTA114YUA-T106	
Q704	8-729-429-44	TRANSISTOR XP1501-TXE	
Q705	8-729-028-74	TRANSISTOR DTA114TUA-T106	
Q706	8-729-028-99	TRANSISTOR DTC114YUA-T106	
Q801	8-729-905-34	TRANSISTOR 2SC4081T106Q	
Q802	8-729-028-76	TRANSISTOR DTA114YUA-T106	
Q803	8-729-905-34	TRANSISTOR 2SC4081T106Q	
Q804	8-729-028-74	TRANSISTOR DTA114TUA-T106	
Q805	8-729-905-34	TRANSISTOR 2SC4081T106Q	
Q901	8-729-905-34	TRANSISTOR 2SC4081T106Q	
Q902	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
		< RESISTOR >	

Ref. No.	Part No.	Description			Remarks
R102	1-216-845-11	METAL CHIP	100K	5%	1/10W
R103	1-216-833-11	METAL CHIP	10K	5%	1/10W
R104	1-216-845-11	METAL CHIP	100K	5%	1/10W
R105	1-216-841-11	METAL CHIP	47K	5%	1/10W
R107	1-216-813-11	METAL CHIP	220	5%	1/10W
R108	1-216-821-11	METAL CHIP	1K	5%	1/10W
R109	1-216-817-11	METAL CHIP	470	5%	1/10W
R110	1-216-837-11	METAL CHIP	22K	5%	1/10W
R111	1-216-837-11	METAL CHIP	22K	5%	1/10W
R112	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R113	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R114	1-216-849-11	METAL CHIP	220K	5%	1/10W
R115	1-216-817-11	METAL CHIP	470	5%	1/10W
R118	1-216-813-11	METAL CHIP	220	5%	1/10W
R119	1-216-817-11	METAL CHIP	470	5%	1/10W
R120	1-216-821-11	METAL CHIP	1K	5%	1/10W
R124	1-216-813-11	METAL CHIP	220	5%	1/10W
R125	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R127	1-216-837-11	METAL CHIP	22K	5%	1/10W
R128	1-216-817-11	METAL CHIP	470	5%	1/10W
R129	1-216-841-11	METAL CHIP	47K	5%	1/10W
R201	1-216-801-11	METAL CHIP	22	5%	1/10W
R301	1-216-817-11	METAL CHIP	470	5%	1/10W
R302	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R303	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R304	1-216-833-11	METAL CHIP	10K	5%	1/10W
R305	1-216-837-11	METAL CHIP	22K	5%	1/10W
R307	1-216-837-11	METAL CHIP	22K	5%	1/10W
R308	1-216-837-11	METAL CHIP	22K	5%	1/10W
R309	1-216-833-11	METAL CHIP	10K	5%	1/10W
R310	1-216-817-11	METAL CHIP	470	5%	1/10W
R311	1-216-857-11	METAL CHIP	1M	5%	1/10W
R312	1-216-801-11	METAL CHIP	22	5%	1/10W
R313	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R314	1-216-821-11	METAL CHIP	1K	5%	1/10W
R315	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R316	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R318	1-216-837-11	METAL CHIP	22K	5%	1/10W
R401	1-216-837-11	METAL CHIP	22K	5%	1/10W
R402	1-216-841-11	METAL CHIP	47K	5%	1/10W
R403	1-216-833-11	METAL CHIP	10K	5%	1/10W
R404	1-216-837-11	METAL CHIP	22K	5%	1/10W
R405	1-216-821-11	METAL CHIP	1K	5%	1/10W
R406	1-216-845-11	METAL CHIP	100K	5%	1/10W
R407	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R408	1-216-833-11	METAL CHIP	10K	5%	1/10W
R409	1-216-845-11	METAL CHIP	100K	5%	1/10W
R410	1-216-837-11	METAL CHIP	22K	5%	1/10W
R502	1-216-833-11	METAL CHIP	10K	5%	1/10W
R601	1-216-817-11	METAL CHIP	470	5%	1/10W
R602	1-216-864-11	METAL CHIP	0	5%	1/10W
R603	1-216-833-11	METAL CHIP	10K	5%	1/10W
R605	1-216-833-11	METAL CHIP	10K	5%	1/10W
R606	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R607	1-216-857-11	METAL CHIP	1M	5%	1/10W
R608	1-216-857-11	METAL CHIP	1M	5%	1/10W
R609	1-216-845-11	METAL CHIP	100K	5%	1/10W
R610	1-216-857-11	METAL CHIP	1M	5%	1/10W
R611	1-216-833-11	METAL CHIP	10K	5%	1/10W
R612	1-216-809-11	METAL CHIP	100	5%	1/10W
R613	1-216-809-11	METAL CHIP	100	5%	1/10W
R614	1-216-833-11	METAL CHIP	10K	5%	1/10W
R615	1-216-841-11	METAL CHIP	47K	5%	1/10W
R616	1-216-833-11	METAL CHIP	10K	5%	1/10W
R617	1-216-841-11	METAL CHIP	47K	5%	1/10W
R702	1-216-821-11	METAL CHIP	1K	5%	1/10W
R703	1-216-813-11	METAL CHIP	220	5%	1/10W
R704	1-216-849-11	METAL CHIP	220K	5%	1/10W
R706	1-216-821-11	METAL CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description			Remarks
R707	1-216-857-11	METAL CHIP	1M	5%	1/10W
R708	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R709	1-216-821-11	METAL CHIP	1K	5%	1/10W
R712	1-216-853-11	METAL CHIP	470K	5%	1/10W
R713	1-216-837-11	METAL CHIP	22K	5%	1/10W
R714	1-216-837-11	METAL CHIP	22K	5%	1/10W
R716	1-216-853-11	METAL CHIP	470K	5%	1/10W
R717	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R802	1-216-813-11	METAL CHIP	220	5%	1/10W
R803	1-216-841-11	METAL CHIP	47K	5%	1/10W
R806	1-216-857-11	METAL CHIP	1M	5%	1/10W
R807	1-216-841-11	METAL CHIP	47K	5%	1/10W
R808	1-216-849-11	METAL CHIP	220K	5%	1/10W
R809	1-216-857-11	METAL CHIP	1M	5%	1/10W
R810	1-216-849-11	METAL CHIP	220K	5%	1/10W
R901	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R902	1-216-849-11	METAL CHIP	220K	5%	1/10W
R907	1-216-849-11	METAL CHIP	220K	5%	1/10W
R908	1-216-841-11	METAL CHIP	47K	5%	1/10W
		< VARIABLE RESISTOR >			
RV101	1-227-612-11	RES, VAR, CARBON 5K (VOL)			
RV201	1-227-445-11	RES, VAR, CARBON 30K (SPEED CONTROL)			
RV601	1-241-593-11	RES, ADJ, CERMET 4.7K (TAPE SPEED (NORMAL))			
RV602	1-225-868-21	RES, ADJ, CERMET 2.2K (TAPE SPEED (DOUBLE))			
		< SWITCH >			
S101	1-786-282-11	SWITCH, SLIDE (PB/REC)			
S102	1-572-688-11	SWITCH, PUSH (1 KEY) (POWER)			
S301	1-572-922-11	SWITCH, SLIDE (PAUSE ➞)			
S401	1-762-594-41	SWITCH, PUSH (1 KEY) (FF/REW DET)			
S501	1-572-922-11	SWITCH, SLIDE (VOR)			
S601	1-571-277-51	SWITCH, SLIDE (REC TIME/PLAY MODE)			
S602	1-572-688-11	SWITCH, PUSH (1 KEY) (FF/REW)			
		< THERMISTOR >			
THP601	1-810-794-11	THERMISTOR, POSITIVE			
**********					
		MISCELLANEOUS			
		**********			
6	1-860-842-11	FLEXIBLE BOARD			
104	1-548-582-11	COUNTER, TAPE (SMALL TYPE)			
M901	1-787-098-11	MOTOR, DC (CAPSTAN/REEL) (including PULLEY)			
MIC1	1-476-484-31	MICROPHONE UNIT, ELECTRET CAP			
HE901	1-500-515-12	HEAD, MAGNETIC (ERASE)			
HRP901	1-500-823-11	HEAD, MAGNETIC (RECODE/PLAYBACK)			
SP1	1-825-657-11	SPEAKER (3.6cm)			
**********					

Ref. No.	Part No.	Description	Remarks
		ACCESSORIES	
		**********	
	3-220-749-21	CASE,CARRYING	
	3-261-017-11	MANUAL,INSTRUCTION (ENGLISH,FRENCH,SPANISH) (AEP,CND,US)	
	3-261-017-21	MANUAL,INSTRUCTION (PORTUGUESE,FINNISH,SWEDISH) (AEP)	
	3-261-017-31	MANUAL,INSTRUCTION (GERMAN,ITALIAN,DUTCH) (AEP)	
	3-261-017-51	MANUAL,INSTRUCTION (ENGLISH,RUSSIAN,SLOVAKIAN) (EE,JEW)	
	3-261-017-61	MANUAL,INSTRUCTION (CZECH,HUNGRIAN,POLISH) (EE)	
	3-261-017-71	MANUAL,INSTRUCTION (ENGLISH,SIMPLIFIED,CHINESE) (CH)	
	3-261-017-81	MANUAL,INSTRUCTION (TRADITIONAL CHINESE,KOREAN) (JEW)	
	3-261-017-91	MANUAL,INSTRUCTION (ENGLISH,KOREAN) (Korean)	

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2004.01	New
1.1	2004.05	Addition of Chinese model.
1.2	2004.07	Addition of Korean model.